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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,025	07/22/2003	Woo Yeong Cho	8836-189 (ID12133-US)	8217
22150	7590	05/02/2005	EXAMINER	
F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797			NGUYEN, DANG T	
			ART UNIT	PAPER NUMBER
			2824	

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/625,025		CHO, WOO YEONG	
	Examiner		Art Unit	
	Dang T. Nguyen		2824	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-12 and 14-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4-12,14-19 and 21 is/are allowed.
- 6) ☒ Claim(s) 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Search history</u> . |

Response to Amendment

1. This office action is in response to applicant's amendment received on 4/16/05. Claims 3 and 13 have been canceled. Claims 1, 2, 4, and 10 have been amended. Claims 20 – 21 have been added. Claims 1, 2, 4 – 12, 14 – 21 are pending on this application. Claims 1, 10, 19, 20, and 21 are independent claims.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 20 is rejected under 35 U.S.C. 102(e) as being anticipated by Van Buskirk et al., Patent No. US 6,799,256 B2 – filed May 1, 2002.

Regarding independent claim 20, Figs 3, 5, and 8 of Van Buskirk disclose a memory device comprising: a first memory array having a plurality of memory cells (Fig. 8, [180]) connected with one of a plurality of wordlines (Fig. 8, [WL0, WL1, WL2WLM]), wherein each one of the memory cells stores either one of a first logic state and a second logic state (every memory cell must be either stores logic 0 or 1) (Col. 3 lines 57-60);

A second memory array (Fig. 8, [182 and 184]) having a plurality of first reference memory cells (Fig. 8, [REF A, 182]) set to the first logic state (Col. 3 lines 57-

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60) and a plurality of second reference memory cells [REF B, 184] set to the second logic state (Col. 3 lines 57-60), wherein the first and second reference memory cells (Fig. 8, [182 and 184]) are connected with one of the plurality of wordlines (Fig. 8, [WL0, WL1, WL2WLM]);

A current providing unit (Fig. 5, current from reference cells [94 & 96]) for providing a first reference current to the first reference memory cells (Fig. 5, [REF A], current from the reference cell [94]) and the second reference memory cells (Fig. 5, [REF B], current from the reference cells [96]) respectively, in response to a reference voltage (Figs. 3 and 5, Col. 8 lines 11-31); and

A sense amplifier (Fig. 5, [104]) for sensing the logic state of selected memory cell by comparing a current flow to the selected memory cell [92] with an average (Fig. 5, $[(A+B)/2]$ of the first and second reference currents (Fig. 5 and Col. 8 line 66 – Col. 9 line 29).

Allowable Subject Matter

3. Claims 1 – 19 and 21 are allowed.
4. The following is an examiner's statement of reasons for allowance:

With respect to claim 1, in addition to other elements in the respective claims, the prior art of record fails to teach or suggest “wherein each one of the plurality of second memory cells set to a first logic state is coupled to the first bitline and each one of the plurality of second memory cells set to a second logic state is coupled to the second reference bitline”.

With respect to claims 10 and 21, in addition to other elements in the

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respective claims, the prior art of record fails to teach or suggest "a circuit for clamping a voltage of a line through which the first current is transmitted, and a voltage of a line through which the second current is transmitted, to the reference voltage".

With respect to claim 19, in addition to other elements in the respective claims, the prior art of record fails to teach or suggest "a current providing unit comprising a first current mirror coupled to a second one of the plurality of bitlines; a second current mirror coupled to a third one of the plurality of bitlines; and a third current mirror for providing the reference current equal to half of the sum of a current from the first current mirror and a current from the second current mirror to the sense amplifier".

Response to Arguments

5. Applicant's arguments filed 4/13/05 with respect to claim 20 has been considered but are moot in view of the new ground(s) of rejection.

Prior art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Takahashi et al. Patent No. US 6,639,849 B2 Date of Patent: Oct. 28, 2003

Tran et al. Pub. No. US 2001/0053104 A1 Pub. Date: Dec. 20, 2001

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

8. Any inquiry concerning this communication from the examiner should be directed to Dang Nguyen, who can be reached by telephone at (571) 272-1955. Normal contact times are M-F, 8:00 AM - 4:30 PM.

Upon an unsuccessful attempt to contact the examiner, the examiner's supervisor, Richard Elms, may be reached at (571) 272-1869.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is (703) 305-3900. The faxed phone number for organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the Status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or EBC@uspto.gov.

Dang Nguyen 4/29/2005



**ANH PHUNG
PRIMARY EXAMINER**